

AMENDMENTS TO THE SPECIFICATION

Please amend the original paragraphs 39-41 as follows:

[0039] FIGs. 8A to 8F[[P]]show a blanking and forming sequence of manufacturing processes using progressive dies, particularly to FIG. 8F[[P]], there is shown the linkage assembly 840 that may be used in a receiver such as the receiver 100 shown in FIG. 1. Progressive dies have long been known in the art. Progressive die fabrication operations are typically performed on starting stock material having a continuous form such as a ribbon or strip. Sequential stations are used for operations such as stamping of ribs, bosses, etc. on the blank surfaces, for cutting, shearing or piercing of the material to create needed holes, slits or overall shape, and/or for folding the material to create a general three dimensional shape . The continuous form of the starting stock material allows partially developed individual parts, still attached to the stock material, to be collectively carried from station to station without requiring handling and locating of individual parts. Each stamping station will thus have specifically configured, but otherwise generally, conventional punch/die assemblies that cooperate to achieve the above noted and possible other fabricating procedures. Laser blanking, cutting, shearing, or piercing may also be used in conjunction with the progressive die stamping process.

[0040] FIG. 8A shows a perspective view of flat stock material 800 such as foil blank, partially processed, for example, by a progressive die machine (not shown), as discussed above, ~~being fed longitudinally to a progressive die machine (not shown).~~ The flat stock material 800 ~~includes a surface 801, defining~~ defines a plane, ~~and a~~ a plurality of punch and die features 802, 804, ~~and 806~~ and 818-820 are ~~shown~~formed. The punch and die components 802, 804, ~~806~~ ~~818~~818-820 are required for propagation thru the die and to provide access for a subsequent laser operation after linkage assembly 140 forming is complete, ~~shown in FIG. 8B.~~ A first preform 822 and a first hole 824 punched in the center region of the preform 822 ~~is formed~~are as shown, ~~in FIG. 8C.~~ An opposing second preform 826 and a second hole 828 punched in the center region of the preform 826 is ~~formed also~~ as shown, ~~in FIG. 8D.~~ FIG. 8G shows ~~t~~The first preform 822 displaced relative to the plane. That is, the first preform is plastically deformed into a first linkage member having a half-diamond configuration with first and second members 840a, 840b and a vertex 840c between

~~the first and second members 840a, 840b and tabs 840g, 840h formed at the extreme ends of the first and second members 840a, 840b, respectively. Referring to FIG. 8H, the second preform 826 is displaced relative to the plane similarly plastically deforming the preform 826 into a second linkage member with a half-diamond configuration, with third and fourth members 840c, 840d and a vertex 840f between the third and fourth members 840c, 840d and tabs 840i, 840j at the extreme ends of the third and fourth members 840c, 840d, respectively. A detail of tabs 840i, 840j is shown in FIG. 8F. A third preform 830 having a length longer than the first and second preforms 814, 816 is formed as shown in FIG. 8E shown. In one embodiment the preforms 822, 826, and the leg portion of 830 are the same width.~~

~~Two 90 deg bends are performed at the extreme ends of the third preform 830 to form tabs 840k, 840l and 840m, 840n. FIG. 8I shows a detail of tabs 840k, 840l. Referring to FIG. 8J, the end portions of preform 830 are displaced 90 deg away from the plane, in the opposite direction of tabs 840k-n resulting in bracket 240o and 240p (shown in FIG. 8K).~~

[0041] A bending operation is performed to create the linkage assembly 140 support legs 840q and 840r as shown in FIG. 8K. The "diamond shape" of the linkage assembly 140 is formed during 90 deg bending operations of the first and second preforms 822, 826, as shown in FIG. 8L and FIG. 8M. A first bending operation is performed on the third preform 830 to rotate the linkage assembly support legs 840q and 840r into a plane with the "diamond shape" as shown in FIG. 8N. FIG. 8C shows the support legs 840q and 840r are then rotated into alignment with the tabs 840g, 840i and 840h, 840j, respectively, as shown in FIG. 8O first and second preforms 822, 826. As shown in FIGs. 8D and 8E, The aligned tabs 840g, 840i and bracket 840p, and the aligned tabs 840h, 840j, and bracket 840o are then bonded using a laser welding or adhesive operation, forming crimp structures 860a, 860b. In the embodiment shown, the tabs 840k, 840l and 840m, 840n are bent around the aligned tabs 840g, 840i and 840h, 840j respectively, as shown in detail in FIG. 8O. These final 90 deg bends crimp structures 860a and 860b provide mechanical coupling of the first, second and third preforms 822, 826 and 830 to secure the assembly. They The crimp structures 860a and 860b provide both mechanical support to the structure in operation and stabilize the assembly until the welding, adhesive bonding, or other mechanical coupling such as riveting or fastening are completed. Alternatively, the attachment force within the crimp structures 860a, 860b alone may be relied on to provide the mechanical integrity needed for linkage assembly operation within the finished receiver. FIG. 8DP shows the crimp structure and the

dimensional relationship between laser access opening 818 and crimp structure 860a. A laser beam, such as used for welding, may pass without interference through the plane of the material strip 800 in order to access the crimp structure 860a. The embodiment shown in FIG. 8EP also has a mounting surface 880 for use in assembly in the receiver 100. The completed linkage assembly 140 may then be cut from the support strip by removing or cutting the respective preform 822, 826, 830 support members 870a, 870b and 870c. Optionally, the linkage assembly 140 may be left attached for additional receiver assembly processes using the flat stock material 900. The stock may also be segmented into a predetermined number of linkage assemblies as shown in FIG. 9. It should be noted that none of the bends used to form the linkage assembly 140, or any section thereof are more than 90 deg. Moreover, no free leg of a preform has more than two bends prior to final positioning and fastening. This simplifies the progressive die tooling and improves dimensional accuracy by reducing compound errors in forming features. It also reduces stress introduced at the bend points that may later cause failure due to metal fatigue.



AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes re-titling Figs. 8M-8R as Figs. 8A-8F and addition of reference numbers to re-titled Figs. 8A and 8D. The added reference numbers are clearly supported in the original specification in paragraphs 39-41. No changes to the content of the drawings have been made.

Figure 6A has been updated per comments in the request to file corrected application papers dated March 10, 2004.

Attachment: Replacement sheet
 Annotated sheet showing changes